

Applicant(s): HAENER, et al.
Serial No.: 10/509,227
Filed: September 24, 2004

REMARKS

This response to the Office Action dated October 28, 2009 is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in a condition for allowance. Favorable reconsideration and allowance of the application are respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 1-26 are pending in the application. Claims 1, 2, 5, 6, 10, 11 and 19 have been amended herein. Claims 3, 9 and 13 have been cancelled herein without prejudice to their filing in a continuation or divisional application. The amendments to the claims add no new matter.

35 U.S.C. § 103(a) Rejections

Madden (US 4,502,213) in views of Hale (US 4,325, 797), D'Muhala (US 5,776,330) and Albrecht (DE 4232909)

The Office Action of October 28, 2009 rejected Claims 1-5, 8-20 and 22-26 under 35 U.S.C. § 103(a), as being unpatentable over Madden (US 4, 502, 213) in views of Hale (US 4, 325, 797), D'Muhala (US 5, 776, 330), and Albrecht (DE 4232909).

1) Non-Analogous Art

As an initial matter, Applicants respectfully assert that Madden and D'Muhala pertain to non-analogous art not eligible for combining under 35 U.S.C. § 103(a). The Examiner in the Office Action of October 28, 2009 (OA, 10/28/09) recognized that Applicants disputed the applicability of Madden in the previous response. See, "Response to Arguments" section, OA, 10/28/09, p. 10. Applicants asserted, for example, that "Madden refers to a technique for large-scale re-chargeable battery assembly—not the preparation of an 'electrochemical sensor' with a 'hand-held' apparatus/method as is recited in Applicants' claims." (Applicants' Response, July 28, 2009, p. 9.) Applicants also made a similar contention regarding the applicability of

D'Muhala in the context of the same rejection. (See, Response, July 28, 2009, p. 12). Applicants further make such contentions herein.

Madden refers to a technique for large-scale re-chargeable battery assembly — not the preparation of an “electrochemical sensor” with a “hand-held” apparatus/method as is recited in Applicants’ claims. D'Muhala provides “methods and apparatus for quickly and inexpensively removing contamination from a variety of surfaces...” such as for example, radioactive surfaces. (Col 1, ln. 67-Col. 2, ln. 1). Applicants respectfully continue to assert that such references are both inapposite.

Those skilled in the art, particularly the field of electrochemical sensor preparation or refurbishment, would not have applied a reference like Madden or D'Muhala to a solution of any problem of creating, for example, a “[h]andheld apparatus for the preparation of an electrochemical sensor comprising a sensor head” as is recited in Claim 1 as amended. Madden relates to industrial battery production, which is a different field than replacing the membrane on a sensor head of an electrochemical sensor. Further, and as a practical matter, for example, applicability of Madden to the present invention seems an impossibility. The presently claimed invention presents, *inter alia*, a hand-held solution for preraring the head of an electronic sensor. The solution presented by Madden pertains to general battery-making, and is free-standing and large-sized, i.e. not hand-holdable.

Likewise those skilled in the art, such as that of electrochemical sensor refurbishment, would not have applied a reference like D'Muhala. Scrubbing surfaces to remove, for example, radioactivity is not within the same field as refurbishment of an electrochemical sensor. Those skilled in the art of electrochemical sensor preparation would not have looked to D'Muhala for solutions concerning, for example applying electrolyte, with precision, to a sensor head or applying a sensor head membrane.

It is respectfully asserted that the Office Action does not provide any facts or circumstances establishing a motivation to combine, for electrochemical sensor preparation (in the hand-holdable case), Madden and D'Muhala, either with each other or with Hale and/or Albrecht.

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2) Claim Limitations Not Found in Prior Art

In addition, none of Madden, Hale, D'Muhala and Albrecht, alone or taken together, disclose, teach or suggest all the limitations of independent Claims 1 and 19 as amended.

i. Madden

Concerning Madden, the Examiner states for Claim 1 that:

"Madden does not teach a means for dispensing a membrane" (OA, 10/28/09, p. 3);

"Madden ... is silent about the apparatus being handheld." (Id., p. 3); and

"Madden...[is] silent about "two plungers to dispense membrane and electrolyte being held by an actuator". (Id., p. 3)

Claim 1, as amended, recites, *inter alia*:

holder, ... dispenser for the electrolyte, ... dispenser for the membrane and [a] common carrier... arranged within a common housing that is able to be handheld... ; and

actuator comprising a plurality of plungers capable of either linear or rotational movement in connection with the actuator, wherein:...a first plunger releases electrolyte from a container opened by pressure exerted on the actuator so that electrolyte is applied to the sensor head; and...a second plunger by pressure exerted downwardly on the actuator releases the membrane with a pressing surface that reproducibly displaces the electrolyte [Emphasis provided]

Claim 19, as amended, recites, *inter alia*:

a common housing that is able to be handheld ...

a common carrier comprising at least a dispenser for the electrolyte and a dispenser for the membrane, the method comprising; and

an actuator manually accessible comprising at least a first and second plunger...

Madden lacks at least these elements, and the Examiner's discussion regarding of Claims 1 and 19 lacking from Madden is valid after the current amendments.

In addition to the elements above, Claim 1 and 19, as amended, recite further elements not disclosed, taught or suggested by Madden. For example Claim 1, recites, *inter alia*:

housing upper part and ... housing lower part each comprising a half shell which form a common inner space for the reception of at least the dispenser for the electrolyte, the dispenser for the membrane, the common carrier and the holder for the sensor ...;

the holder is fixedly arranged in said housing lower part, with the housing lower part comprising an opening where the opening leads to the holder to engage the electrochemical sensor; ...;

housing upper part further comprising an actuator which is displaceably mounted essentially in the vertical direction with respect to the housing upper part and the housing lower part; and

...supply the electrolyte and membrane to the sensor by manually moving the actuator in said vertical direction by downward pressing exerted onto the actuator [via plungers].

These elements are also not taught, disclosed or suggested by Madden. For example, Madden provides no “housing upper part and ... housing lower part each comprising a half shell which form a common inner space for the reception of at least the dispenser for the electrolyte, the dispenser for the membrane, the common carrier and the holder for the sensor”. The element of a “common inner space for the reception of elements” and a “common carrier”, for example, is not described, taught or suggested by Madden.

Madden does not teach or suggest any mechanism with an “actuator which is displaceably mounted essentially in the vertical direction with respect to the housing upper part and the housing lower part” and which “suppl[ies] the electrolyte and membrane to the sensor by manually moving the actuator in said vertical direction by downward pressing exerted onto the actuator.” [Emphasis provided.]

Claim 19, as amended, recites, *inter alia*:

applying a first force by downward pressing exerted onto said actuator to move the first and second plunger in said vertical direction, , wherein on application of the first downward pressing force the dispenser for the electrolyte gets in contact with the sensor head, and wherein further movement of the first plunger in said vertical direction releases the electrolyte from a container opened by pressure exerted by said first plunger and said sensor head;

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releasing the first force onto said actuator and moving the actuator opposite to said vertical direction, manually moving the common carrier to position the dispenser for the membrane above the sensor head; and

applying a second force by downward pressing exerted onto said actuator to move the first and second plunger in said vertical direction, wherein on application of the second downward pressing force said dispenser for the membrane gets in contact with the sensor head to supply the membrane to the sensor head, wherein the second plunger by pressure exerted in said vertical direction on the actuator releases the membrane with a pressing surface that reproducibly displaces the electrolyte, the said applying of the force moves the second plunger in said vertical direction.

These elements, for example, of “applying” a first and second “force by downward pressing exerted on [the] actuator”, “mov[ing] the first and second plungers in [the] vertical direction”, “releas[ing] electrolyte from a container opened by pressure exerted by said first plunger and said sensor head”, “releasing the first force onto said actuator and moving the actuator opposite to said vertical direction” and “release[ing] the membrane with a pressing surface that reproducibly displaces the electrolyte” are not taught or disclosed by Madden.

Further, and as stated previously in Applicants response of July 28, 2009, electrolyte in Madden is described as being provided only grossly to the entire cell. (See, Madden, Col. 5, ln. 29-32) Both Claim 1 and Claim 19 recite, *inter alia*: “release” of “electrolyte from a container opened by pressure exerted...” Such a description of electrolyte being applied grossly in Madden cannot disclose, teach or suggest any “actuator comprising a plurality of plungers” where “a first plunger releases electrolyte from a container opened by pressure exerted on the actuator so that electrolyte is applied to the sensor head” as is recited in Claim 1, as amended and correspondingly recited in Claim 19 as amended. Applicants further contend that the “battery casing” as described in Madden cannot be a “holder” as recited in Claim 1, as amended, and correspondingly in Claim 19, as amended, where the “holder is fixedly arranged in said housing lower part...” [Emphasis provided].

All of elements of Claims 1 and 19, as amended, which are lacking from Madden are in addition the elements of “means for dispensing a membrane”, “apparatus being handheld” and “two plungers to dispense membrane and electrolyte being held by an actuator” also lacking from Madden.

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Thus, Madden does not disclose, teach or suggest all of the elements of Claim 1 or Claim 19. Madden also cannot be used in combination with Hale D'Muhala, or Albrecht to disclose any elements missing from Madden.

ii. Hale and D'Muhala

Hale and D'Muhala do not disclose, teach or suggest the limitations of Claim 1 or Claim 19, as amended.

Concerning Hale and D'Muhala, the Examiner, in the Office Action of October 28, 2009, states that for Claim 1, before amendment, "Madden and Hale are silent about the apparatus being handheld" (OA, 10/28/09, p. 3) and "Madden, Hale, and D'Muhala are silent about two plungers to dispense membrane and electrolyte being held by an actuator" (Id., p. 3).

Claim 1, as amended, recites, *inter alia*:

dispenser for the membrane and [a] common carrier... arranged within a common housing that is able to be handheld...actuator comprising a plurality of plungers ... a first plunger".. and a second plunger [Emphasis provided]

Claim 19 makes similar recitals. Hale and D'Muhala lack at least these elements, and the Examiner's discussion regarding of Claims 1 and 19 lacking from Hale and D'Muhala is valid after the current amendments.

Other elements of Claims 1 and 19 as amended are also not found in Hale and D'Muhala. For example, Claim 1 recites, *inter alia*:

The []housing comprising a housing upper part and a housing lower part;

..the common carrier to rotate...;

a first plunger releases electrolyte from a container opened by pressure exerted on the actuator so that electrolyte is applied to the sensor head;

and

a second plunger by pressure exerted downwardly on the actuator releases the membrane with a pressing surface that reproducibly displaces the electrolyte.

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Claim 19 contains similar recitals. Claim 1 also recites “a half shell which form[s] a common inner space for ... electrolyte ... and ... membrane” dispensers, while Claim 19 recites “mov[ing] the first and second plunger..” None of the elements referenced above are disclosed or taught by Hale or D’Muhala. In fact, neither Hale nor D’Muhala provide full mechanisms for electrolyte and membrane application to a sensor head. As the Applicants noted in the previous Office Action response, with Hale, a user is left on his or her own to provide electrolyte. See, Col 10, ln. 44-46 and see, Col. 7, ln. 30-33. Also, with Hale, a user must also place a membrane by hand onto the sensor face. See, Col. 10, ln. 56-58. Such a description does not disclose, teach or suggest a system, which provides, for example, both a “dispenser for the electrolyte” and a “dispenser for the membrane” that, are “arranged in a common housing” and applied with multiple “ plungers”.

Further, D’Muhala does not have elements directly relevant to preparing an electrochemical sensor, and is particularly lacking elements for either a “handheld apparatus for the preparation of an electrochemical sensor” (as is recited in Claim 1) or a “method for the manual preparation of an electrochemical sensor with a handheld apparatus” (as is recited in Claim 19). D’Muhala, for example, does not disclose any steps for dispensing electrolyte on a sensor surface or any steps for applying a membrane to a sensor. Moreover, D’Muhala discloses a system for electrolyte (used for decontaminating surfaces, e.g. from radioactive contamination) with a pumping system that is not hand holdable. See, Col. 6, ln 22-37. This disclosure in D’Muhala does not teach or suggest, for example, any handheld apparatus where “the holder, the dispenser for the electrolyte, the dispenser for the membrane, and common carrier are arranged within a common housing that is able to be handheld” as is recited in Claim 1, as amended, or a “common housing able to be handheld ... comprising a housing upper part and a housing lower part...an actuator...a holder and a common carrier.. comprising...a dispenser for the electrolyte and a dispenser for the membrane.” as in Claim 19, as amended.

Accordingly, the limitations of Claims 1 and 19 are not disclosed, taught or suggested by any combination of Madden, Hale and D’Muhala.

iii. Albrecht

Albrecht cannot cure the deficiencies of Madden, Hale and D’Muhala.

The Office Action of October 28, 2009, states that “Albrecht teaches a handheld apparatus with a plunger for dispensing an electrolyte or membrane ...” Applicants respectfully

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disagree.

Applicants contend that no plungers are disclosed in Albrecht. For example, parts 11 and 17 in Albrecht are electrodes, not plungers. Part 12 represents a cap which is fitted and twisted to make its hermetic seal.

Thus, none of Madden, Hale, D'Muhala, and Albrecht, alone or taken together, teach or suggest the limitations of Claim 1 and 19 as amended. It is respectfully submitted that Claims 1 and 19 are allowable. Each of Claims 2, 4-5, 8, 10-12, 14-18, 20 and 22-26 depends from one of Claims 1 or 19 and also includes the limitations of the claim from which it depends, and each of these dependent claims is likewise allowable. Claims 3, 9 and 13 have been cancelled. Accordingly, it is respectfully asserted that the rejections of Claims 2-5, 8-18, 20 and 22-26 under 35 U.S.C. § 103(a), as being unpatentable over Madden in view of Hale, D'Muhala and Albrecht be withdrawn.

McGandy (US 4,285,792), Cortina (US 4,738,765) and Patt (US 3,946,599)

The Office Action of October 28, 2009 rejected Claim 6 under 35 U.S.C. § 103(a), as being unpatentable over Madden, Hale D'Muhala, and Albrecht as applied to claims 1-5, 8-20 and 22-25 and further in view of McGandy (US 4,285,792). The Office Action rejected Claim 7 under 35 U.S.C. § 103(a), as being unpatentable over Madden, Hale, D'Muhala and Albrecht, as applied to claims 1-5, 8-20 and 22-25 and further in view of Cortina (US 4,738,765). The Office Action rejected Claim 21 under 35 U.S.C. § 103(a), as being unpatentable over Madden, Hale, D'Muhala and Albrecht, as applied to claims 1-5, 8-20 and 22-25 and further in view of Patt (US 3,946,599).

Claims 6 and 7 depend on Claim 1, as amended, and Claim 21 depends from Claim 19, as amended. As described above, none of Madden, Hale, D'Muhala or Albrecht, alone, or taken together, disclose, teach or suggest the all the limitations of either of Claims 1 or 19, as amended. McGandy and Cortina do not cure the deficiencies of Madden, Hale, or D'Muhala with regard to Claims 6 and 7. Patt does not cure the deficiencies of these references with regard to Claim 21.

Applicants request that the Examiner withdraw the rejections of claims 6, 7 and 21 under 35 U.S.C. § 103.

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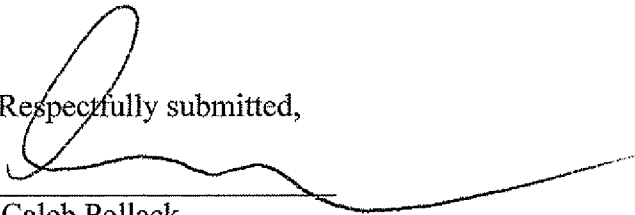
CONCLUSION

In view of the foregoing amendments and remarks, and for at least the reasons discussed above, Applicants respectfully submit that the pending claims are allowable. Their favorable consideration and allowance is respectfully requested.

The Examiner is invited to telephone the undersigned to discuss any still outstanding matters with respect to the present application.

The fees for the petition for extension of time is being paid separately. No other fees are believed to be due. However, if any such fees are due, please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,



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